

REMARKS

This is a full and timely response to the outstanding non-final Office Action mailed November 12, 2008. Reconsideration and allowance of the application and presently pending claims, as amended, are respectfully requested.

Present Status of Patent Application

Upon entry of this Amendment, claims 41-45, 47-54, and 59 are pending in the present application. Claims 41, 52, and 59 are amended herein, and claim 46 is canceled.

The prior art made of record has been considered, but is not believed to affect the patentability of the presently pending claims. Applicant believes that no new matter has been added and that a new search is not necessary.

Claim Rejections under 35 U.S.C. § 103(a)

Claims 41-43, 47-51, 53 and 54 stand rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over Bennett et al (U.S. Patent 5,439,626) in combination with Ortega et al (U.S. Patent 7,060,149). Applicant respectfully traverses this rejection for at least the following reasons.

Claim 1 reads as follows:

A method of making a **polyamide mixed yarn** comprising: ***simultaneously spinning from separate spinning packs***, a first group of filaments of a first polyamide and a second group of filaments of a second polyamide different from the first polyamide, ***wherein the first polyamide is a cationic-dye polyamide and the second polyamide is an anionic-dye polyamide***; combining the first and second groups of filaments through an air interlacing jet; and winding up the interlaced filaments; wherein said yarn has yarn weight from about 5 to about 300dtex

[Emphasis added]. Applicant submits that claim 41 is patentable over the combination of Bennett and Ortega for at least the reason that neither Bennett nor Ortega alone or in combination disclose, teach, or suggest at least the highlighted portions of claim 41 above. In particular Bennett fails to teach or suggest spinning the filaments from separate spinning packs or that the first

polyamide is a cationic dyeable polyamide and the second polyamide is an anionic dyeable polyamide. Although Ortega appears to teach spinning filaments from separate spinners, Ortega still fails to teach or suggest that the first polyamide is a cationic-dye polyamide and the second polyamide is an anionic-dye polyamide.

Furthermore, the use of separate spinnerets in Ortega is non-analogous to the present claims because Ortega is directed to the production of non-woven, spunbonded fabrics. Thus, while the filaments are extruded from separate spinnerets they are not subsequently formed into a yarn, and are thus not subject to the same stresses and strains typical of a standard yarn spinning process. As such, one of skill in the art reading Bennett would not be motivated to look to Ortega for a suggestion to spin different polyamides through separate spin packs for combining in a single yarn. As mentioned in the background of the present application, while it was known in the art to make cat-dye filaments, it was also known that cationic-dyeable polyamides do not spin as well as anionic-dyeable polyamides and have a much higher interruption rate. Thus, forming the finer filaments needed for yarns for apparel end-use, cat-dye filaments had to be made by at slow-speed spinning rates in a two-stage process (involving separate spinning a winding of each group of filaments into a yarn and then unwinding each in a separate process to combine the yarns and re-winding as a mixed-yarn). Thus, the conventional knowledge in the art suggested that such lighter decitex (dtex) cat-dye filaments could not be simultaneously spun into a single yarn with anionic-dye filaments at the yarn weights suitable for apparel fabric because the traditional spinning parameters for anionic-dye filaments would create too much stress and strain for the more fragile cat-dye nylon polymer. (see specification, page 2, lines 10-25). Thus, the use of separate spinners in a process such as in Ortega that does not involve spinning the separate filaments into a yarn does not suggest that doing so would be successful in a yarn-making process, especially one involving spinning lighter dtex cat-dye nylon filaments together in a yarn with anionic-dye filaments at high spin speeds. Thus,

Applicant submits that claim 41 is novel and nonobvious over Bennett and Ortega alone or in combination.

Because independent claim 41 is allowable, then for at least this reason dependent claims 42-43, 47-51, 53 and 54 are also allowable. *In re Fine*, 5 U.S.P.Q.2d 1596, 1600 (Fed. Cir. 1988).

Claims 44-46, 52 and 59 stand rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over Bennett et al (U.S. Patent 5,439,626) in combination with Ortega et al (U.S. Patent 7,060,149) and further in view of either Nakayama et al (U.S. Patent 3,939,636) or Burton et al (U.S. Patent 5,804,115). Since claim 46 has been canceled and the limitations of that claim incorporated into independent claim 41, claim 41 will also be discussed in conjunction with this rejection. Applicant respectfully traverses this rejection for at least the following reasons.

First, Applicant submits that independent claim 41 is novel and nonobvious over the combination of Bennett and Ortega for the reasons set forth above. Applicant further submits that Nakayama does not remedy the deficiencies of Bennett and Ortega to establish a *prima facie* case of obviousness. The Office Action cites Nakayama merely to show that the preparation of acid-dyeable nylon is known in the art, a well-known process that is discussed in the background of the instant application. However, Nakayama fails to provide any additional teaching that would suggest the benefits or possibility of simultaneously spinning both anionic-dyeable and cationic-dyeable yarns in a process to produce a light-weight, mixed-filament nylon yarn. One of skill in the art familiar with the conventional knowledge in this field would not expect such a process to be possible due to the slower spinning speeds and higher interruption rates associated with cat-dye nylon polymers, as discussed above. Nakayama provides no teachings to rebut this prevailing opinion. Thus, Applicant submits that claim 41 is nonobvious over the combination of Bennett, Ortega and Nakayama.

Applicant also submits that Burton similarly fails to remedy the deficiencies of Bennett and Ortega to establish a *prima facie* case of obviousness. Burton

teaches a process for forming mock space-dyed yarns with "color-pop" effect by spinning different colored filaments into a yarn. Thus, these filaments are **pre-colored** as opposed to differentially dyeable filaments of the present claims. Although Burton suggests the possibility of using pre-dyed filaments in their process, they do not actually teach that such process would be successful or could produce yarns of the claimed lighter yarn weights.

As discussed above, the ability to spin cat-dye filaments at the lighter dtex needed to produce a mixed filament yarn of the claimed yarn weight AND to simultaneously spin such filaments with anionic-dye filaments was both unknown and precluded due to the high strain rates associated with spinning such filaments. Since Burton is directed to the preparation of carpet yarns, such yarns would be higher-weight yarns than those of the instant claims, and would involve higher-dtex filaments. In Col. 8, lines 45-54, Burton indicates that the carpet yarns made by their process have a yarn denier of 1800-4000 with a denier per filament of at least 16-28 (see also the Examples, which describe yarns with a total yarn denier of 2500 and 3600). For conversion purposes, a dtex = denier * 1.111, thus the claimed yarn weight range of 5 – 300 dtex is roughly equivalent to 4.5 – 270 denier. The yarn weight of the carpet yarns of Burton are obviously much higher than the yarn weight of the yarn of the present claims (and, by extrapolation, higher than the individual filament weight as well).

As discussed in the background of the present invention, it was known that higher dtex cat-dye polyamide yarns could be spun for carpet applications (specification, page 2, lines 1-8), but that the lighter dtex apparel grade cat-dye yarns required slower spinning speeds, and could thus only be combined with anionic-dye yarns in a slow, two-stage process, not in a simultaneous spinning one-stage process (specification, page 2, lines 10-25). Thus, the teachings of Burton still do not suggest the ability to spin a mixed-filament yarn of the claimed weight of 5-300 dtex, where the yarn is produced in a single-step process from separately but simultaneously spun cat-dyeable and anionic-dyeable nylon polymer filaments. The Office Action claims that Bennett teaches the claimed yarn weight, but even so, Bennett does not suggest or demonstrate the ability to

spin yarns of such weight from cationic-dyeable nylon polymers in a single process with anionic-dyeable filaments, and neither Burton nor Ortega remedy this deficiency.

Because independent claim 41 is allowable, then for at least this reason dependent claims 44-45, 52, and 59 are also allowable. *In re Fine*, 5 U.S.P.Q.2d 1596, 1600 (Fed. Cir. 1988). In addition, with respect to amended independent claim 59, none of the cited references teaches or suggest a process of spinning a cat-dye polyamide and an anionic-dye polyamide simultaneously from separate spinning packs and combining the filaments through an air interlacing jet to produce a polyamide mixed yarn with a yarn weight of about 5 to 300 dtex, and winding the yarn at a speed of at least 3000 m/min. Thus, claim 59 is allowable over the art of reference for this reason in addition to the reasons cited above for independent claim 41.

CONCLUSION

In light of the foregoing amendments and for at least the reasons set forth above, Applicant respectfully submits that all objections and/or rejections have been traversed, rendered moot, and/or accommodated, and that the now pending claims are in condition for allowance. Favorable reconsideration and allowance of the present application and all pending claims are hereby courteously requested.

Any other statements in the Office Action that are not explicitly addressed herein are not intended to be admitted. In addition, any and all findings of inherency are traversed as not having been shown to be necessarily present. Further, any and all findings of well-known art and official notice, or statements interpreted similarly, should not be considered well known for at least the specific and particular reason that the Office Action does not include specific factual findings predicated on sound technical and scientific reasoning to support such conclusions.

If, in the opinion of the Examiner, a telephone conference would expedite the examination of this matter, the Examiner is invited to call the undersigned attorney at (770) 933-9500.

Respectfully Submitted,

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